

## **ABSTRACT**

An apparatus for emulating a layer-2 service over at least one network is disclosed. The apparatus includes a signal transmission path. Two provider edge devices are located at opposite ends of the signal transmission path. A provider device is located along the signal transmission path, and this provider device divides the signal transmission path into segments. One of the provider edge devices includes code for adding a demultiplexing header onto data units prior to the data units being transmitted along the signal transmission path.